

PM/IDE - An Integrated Development Environment for Planning Models, Phase I

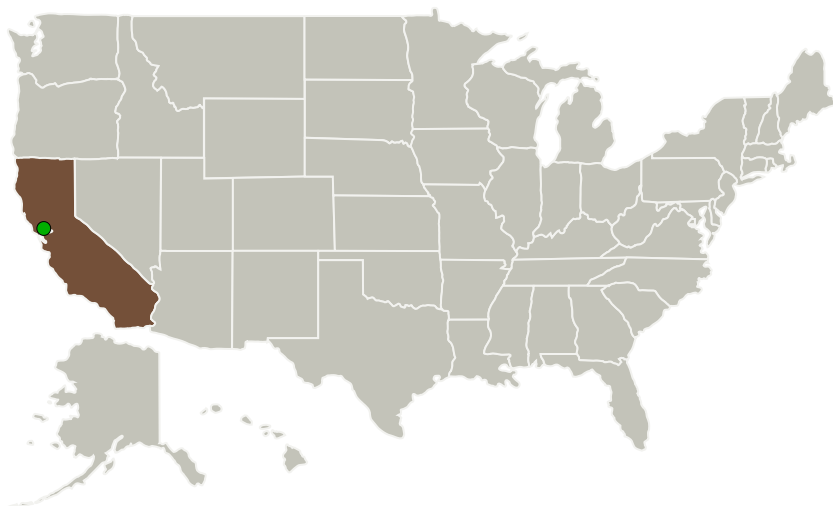
Completed Technology Project (2010 - 2010)



Project Introduction

The Action Notation Modeling Language (ANML) is a relatively new language for specifying planning domain models. These models are created by someone who understands the planning domain and can express the essential aspects of the domain as ANML variables, functions, and actions in a way that supports the generation and execution of safe, efficient, and robust plans. An integrated development environment is essential for enabling programmers and non-programmers to create high-quality, large-scale ANML models more easily. Without such a tool, ANML modeling will remain a tedious and difficult task that can be carried out only by the small number of people who have the necessary specialized programming skills and patience. This, in turn, will severely limit the exploitation of automated planning systems that rely on these models. We propose to develop PM/IDE, an integrated development environment (IDE) for constructing, reviewing, understanding, and testing planning domain models expressed in the Action Notation Modeling Language (ANML) more quickly and effectively. During Phase I, we will characterize the planning domain modeling task to identify the types of analyses and decisions that modelers carry out and the kinds of information they review and assess. Based on this understanding of the task, we will then identify and design useful PM/IDE capabilities and user-system interactions that help people develop ANML models. The system design will specify user-system interactions, software functions and operations, and databases, knowledge bases, and algorithms that implement these functions. We will then develop a limited, proof-of-concept software prototype that demonstrates key parts of the PM/IDE's model editing, query, analysis, and visualization capabilities to demonstrate their utility and feasible implementation.

Primary U.S. Work Locations and Key Partners



PM/IDE - An Integrated Development Environment for Planning Models, Phase I

Table of Contents

Project Introduction	1
Primary U.S. Work Locations and Key Partners	1
Project Transitions	2
Organizational Responsibility	2
Project Management	2
Technology Maturity (TRL)	3
Technology Areas	3
Target Destinations	3

PM/IDE - An Integrated Development Environment for Planning Models, Phase I

Completed Technology Project (2010 - 2010)



Organizations Performing Work	Role	Type	Location
Stottler Henke Associates, Inc.	Lead Organization	Industry	San Mateo, California
● Ames Research Center(ARC)	Supporting Organization	NASA Center	Moffett Field, California

Primary U.S. Work Locations

California

Project Transitions

**January 2010:** Project Start**July 2010:** Closed out**Closeout Documentation:**

- Final Summary Chart(<https://techport.nasa.gov/file/140059>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Stottler Henke Associates, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

James C Ong

Co-Investigator:

James Ong

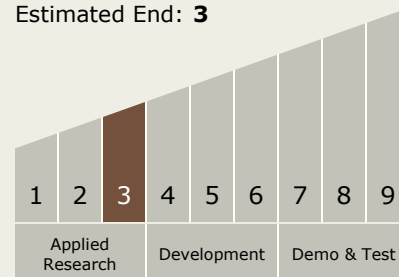
PM/IDE - An Integrated Development Environment for Planning Models, Phase I

Completed Technology Project (2010 - 2010)



Technology Maturity (TRL)

Current: **3**
Estimated End: **3**



Technology Areas

Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
 - └ TX11.1 Software Development, Engineering, and Integrity
 - └ TX11.1.7 Frameworks, Languages, Tools, and Standards

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System